

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Canceled).

Claim 2 (Currently Amended): A mobile communication terminal apparatus which communicates with either a first base station or a second base station and performs a handover from one to another of the base stations, the mobile communication terminal apparatus comprising:

an array antenna which outputs a plurality of signals;

a plurality of multipliers that multiply the signals output from the array antenna by weighting factors, and output multiplication result signals;

a reception device configured to generate a reception signal based on the multiplication result signals output from the multipliers;

a control device configured to perform a calculation for the weighting factors based on the reception signal, and adaptively control the multipliers by supplying the calculated weighting factors thereto; and

an initial value calculating device configured to calculate at least one initial value for the weighting factors prior to the handover.

wherein

the control device starts the calculation for the weighting factors using the initial value when the handover is performed ~~The mobile communication terminal apparatus according to claim 1, wherein and~~

the initial value calculating device includes:

an estimation device configured to estimate an arrival direction of radio waves radiated from the second base station and arrived at the mobile communication terminal apparatus; and

a storing device configured to store the initial value of the weighting factors that is calculated with regard to the arrival direction.

Claim 3 (Currently Amended): The mobile communication terminal apparatus according to claim [[1]] 2, wherein the reception device performs a radio communication between the mobile communication terminal apparatus and the first base station or the second base station in accordance with the TDMA(Time Division Multiple Access) scheme.

Claim 4 (Currently Amended): A mobile communication terminal apparatus which communicates with either a first base station or a second base station and performs a handover from one to another of the base stations, the mobile communication terminal apparatus comprising:

an array antenna which outputs a plurality of signals;

a plurality of multipliers that multiply the signals output from the array antenna by weighting factors, and output multiplication result signals;

a reception device configured to generate a reception signal based on the multiplication result signals output from the multipliers;

a control device configured to perform a calculation for the weighting factors based on the reception signal, and adaptively control the multipliers by supplying the calculated weighting factors thereto; and

an initial value calculating device configured to calculate at least one initial value for the weighting factors prior to the handover,

wherein

the control device starts the calculation for the weighting factors using the initial value
when the handover is performed,

the initial value calculating device includes,

an estimation device configured to estimate an arrival direction of radio waves radiated
from the second base station and arrived at the mobile communication terminal apparatus, and
a storing device configured to store the initial value of the weighting factors that is
calculated with regard to the arrival direction,

the reception device performs a radio communication between the mobile
communication terminal apparatus and the first base station or the second base station in
accordance with the TDMA(Time Division Multiple Access) scheme, and ~~The mobile~~
~~communication terminal apparatus according to claim 3, wherein~~

the estimation device estimates said arrival direction through a time zone other than a
time slot specified in the TDMA scheme.

Claim 5 (Currently Amended): The mobile communication terminal apparatus
according to claim [[1]] 2, wherein the reception device performs a radio communication
between the mobile communication terminal apparatus and the first base station or the second
base station in accordance with the CDMA(Code Division Multiple Access) scheme.

Claim 6 (Original): The mobile communication terminal apparatus according to claim
2, wherein the estimation device acquires a base station list from the first base station or other
base stations, and selects the second base station among the other base stations with reference
to the base station list.

Claim 7 (Currently Amended): A mobile communication terminal apparatus which communicates with either a first base station or a second base station and performs a handover from one to another of the base stations, the mobile communication terminal apparatus comprising:

an array antenna which outputs a plurality of signals;

a plurality of multipliers that multiply the signals output from the array antenna by weighting factors, and output multiplication result signals;

a reception device configured to generate a reception signal based on the multiplication result signals output from the multipliers;

a control device configured to perform a calculation for the weighting factors based on the reception signal, and adaptively control the multipliers by supplying the calculated weighting factors thereto; and

an initial value calculating device configured to calculate at least one initial value for the weighting factors prior to the handover,

wherein

the control device starts the calculation for the weighting factors using the initial value when the handover is performed and ~~The mobile communication terminal apparatus according to claim 1, wherein~~

the initial value calculating device updates the initial value for the weighting factors calculated with regard to the arrival direction by applying an adaptive control algorithm including LMS(Least Mean Square) to the initial value.

Claim 8 (Currently Amended): The mobile communication terminal apparatus according to claim [[1]] 2, wherein the initial value calculating device outputs the initial value

for the weighting factors calculated with regard to the arrival direction when a reception level is higher than a predetermined threshold value.

Claim 9 (Original): A mobile communication terminal apparatus which communicates with either a first base station or a second base station and performs a handover from one to another of the base stations, the mobile communication terminal apparatus comprising:

an array antenna which outputs a plurality of signals;

a plurality of multipliers that multiply the signals output from the array antenna by weighting factors, and output multiplication result signals;

a reception device configured to generate a reception signal based on the multiplication result signals output from the multipliers;

a control device configured to perform a calculation for the weighting factors based on the reception signal, and adaptively control the multipliers by supplying the calculated weighting factors thereto;

an initial value calculating device configured to calculate at least one initial value for the weighting factors prior to the handover, the initial value calculating device including:

an estimation device configured to estimate an arrival direction of radio waves radiated from the second base station and arrived at the mobile communication terminal apparatus; and

a storing device configured to store information that identifies the estimated arrival direction;

wherein

the control device starts the calculation for the weighting factors using the initial value when the handover is performed.

Claim 10 (Original): The mobile communication terminal apparatus according to claim 9, wherein the reception device performs a radio communication between the mobile communication terminal apparatus and the first base station or the second base station in accordance with the TDMA(Time Division Multiple Access) scheme.

Claim 11 (Original): The mobile communication terminal apparatus according to claim 10, wherein the estimation device estimates said arrival direction through a time zone other than a time slot specified in the TDMA scheme.

Claim 12 (Original): The mobile communication terminal apparatus according to claim 9, wherein the reception device performs a radio communication between the mobile communication terminal apparatus and the first base station or the second base station in accordance with the CDMA(Code Division Multiple Access) scheme.

Claim 13 (Original): The mobile communication terminal apparatus according to claim 12, wherein the estimation device acquires a base station list from the first base station or other base stations, and selects the second base station among the other base stations with reference to the base station list.

Claim 14 (Original): The mobile communication terminal apparatus according to claim 9, wherein the initial value calculating device updates the initial value for the weighting factors calculated with regard to the arrival direction by applying an adaptive control algorithm including LMS(Least Mean Square) to the initial value.

Claim 15 (Original): The mobile communication terminal apparatus according to claim 9, wherein the initial value calculating device outputs the initial value for the weighting factors calculated with regard to the arrival direction when a reception level is higher than a predetermined threshold value.

Claim 16 (Original): A mobile communication terminal apparatus which communicates with either a first base station or a second base station and performs a handover from one to another of the base stations, the mobile communication terminal apparatus comprising:

- an array antenna which outputs a plurality of signals;

- a plurality of multipliers that multiply the signals output from the array antenna by weighting factors, and output multiplication result signals;

- a reception device configured to generate a reception signal based on the multiplication result signals output from the multipliers;

- a control device configured to perform a calculation for the weighting factors based on the reception signal, and adaptively control the multipliers by supplying the calculated weighting factors thereto;

- an initial value calculating device configured to calculate at least one initial value for the weighting factors prior to the handover;

- a storing device configured to store the calculated initial value;

wherein

the control device starts the calculation for the weighting factors using the initial value when the handover is performed.

Claim 17 (Original): The mobile communication terminal apparatus according to claim 16, wherein the reception device performs a radio communication between the mobile communication terminal apparatus and the first base station or the second base station in accordance with the TDMA(Time Division Multiple Access) scheme.

Claim 18 (Original): The mobile communication terminal apparatus according to claim 16, wherein the reception device performs a radio communication between the mobile communication terminal apparatus and the first base station or the second base station in accordance with the CDMA(Code Division Multiple Access) scheme.

Claim 19 (Currently Amended): A mobile communication terminal apparatus which communicates with either a first base station or a second base station and performs a handover from one to another of the base stations, the mobile communication terminal apparatus comprising:

an array antenna which outputs a plurality of signals;

a plurality of multipliers that multiply the signals output from the array antenna by weighting factors, and output multiplication result signals;

a reception device configured to generate a reception signal based on the multiplication result signals output from the multipliers;

a control device configured to perform a calculation for the weighting factors based on the reception signal, and adaptively control the multipliers by supplying the calculated weighting factors thereto; and

an initial value calculating device configured to calculate at least one initial value for the weighting factors prior to the handover.

wherein

the control device starts the calculation for the weighting factors using the initial value
when the handover is performed and the mobile communication terminal apparatus further
comprises ~~The mobile communication terminal apparatus according to claim 1, further~~
~~comprising:~~

a first synchronization circuit for bit synchronization and frame synchronization, which
is used for communication with the first base station; and

a second synchronization circuit for bit synchronization and frame synchronization,
which is used for communication with the second base station.